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Post-school Goal Expectations for Youth with Intellectual and Developmental Disabilities

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Abstract:	Using National Longitudinal Transition Study 2012 data, this study explored parent and youth expectations in the areas of postsecondary education, employment, independent living, and financial independence. Compared to youth with other disabilities, youth with intellectual and developmental disabilities (IDD) and their parents had much lower expectations for the four postschool goals, and parent expectations were much lower than youth's own expectations. Also, youth's race, along with their daily living skills and functional abilities, were positively associated with parent and youth expectations in several future goal areas. Our discussion highlights implications for improving the transition experiences of youth with IDD.

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Abstract

Using National Longitudinal Transition Study 2012 data, this study explored parent and youth expectations in the areas of postsecondary education, employment, independent living, and financial independence. Compared to youth with other disabilities, youth with intellectual and developmental disabilities (IDD) and their parents had much lower expectations for the four postschool goals, and parent expectations were much lower than youth's own expectations. Also, youth's race, along with their daily living skills and functional abilities, were positively associated with parent and youth expectations in several future goal areas. Our discussion highlights the need to examine how data are collected, and then can be used to reimagine how to use data to better understand and improve the transition experiences of youth with IDD.

Keywords: intellectual and developmental disabilities, parent expectations, youth expectations, post-school goals

Post-school Goal Expectations for Youth with Intellectual and Developmental Disabilities

Youth with disabilities continue to exit high schools with far lower rates of employment and postsecondary education (PSE) enrollment compared to their peers without disabilities (Bureau of Labor Statistics, 2020). Lipscomb et al. (2017a) using data from the National Longitudinal Transition Study 2012 (NLTS 2012) found that youth with an individualized education program (IEP) were less likely to have plans and take steps to obtain PSE or employment compared to youth without an IEP. Findings from empirical studies (Chiang et al., 2012; Doren et al., 2012) have pointed to the importance of parent expectations in youth's post-school success, including those youth with disabilities and those from diverse racial/ethnic and language groups (Doren et al.; Kirby, 2016). Further, national data show that youth with autism spectrum disorder (ASD), intellectual disability (ID), and multiple disabilities (MD) (referred to here as youth with Intellectual and Developmental Disabilities [IDD]) are least likely to receive assistance and support to prepare for college and employment (Lipscomb et al., 2017b).

Since the passage of the Individuals with Disabilities Education Act (IDEA) of 1990, discussions about transition services are required in IEP meetings for youth with disabilities. For youth and their parents, transition planning is the process of setting goals for their life after high school, determining related transition services, and making necessary connections with community service agencies to attain those goals (Test et al., 2004). The reauthorization of IDEA in 2004 strengthened several earlier provisions of the law in relation to setting post-school goals. This included assessing the student's strengths, preferences, and needs; considering further education beyond high school; ensuring that post-school goals are measurable; and determining the transition service needed for the student to achieve post-school goals.

Despite the increasing efforts to improve transition services for students with IDD, post-school outcomes of these students remain dismal (Carter et al., 2012; Shattuck et al., 2012). For

example, in 2018 83% did not have a paid job in the community (National Core Indicators, 2021). In 2018-19, only 45% of students with MD graduated with a regular high school diploma, the lowest among all the disability categories (National Center for Education Statistics, 2021). In addition, more than 50% of young adults with ASD left high school with no participation in any kind of employment or PSE activities (Shattuck et al., 2012).

Students with disabilities from diverse racial/ethnic backgrounds experience additional challenges in achieving positive transition outcomes following high school. Haber et al. (2016) found that being part of a minority group was associated with poorer post-school transition outcomes compared to non-minority students with disabilities. Studies have shown race can predict differential outcomes of youth with ASD and other disabilities (e.g., Chen et al., 2015; Fleming & Fairweather, 2012; Roux et al., 2020). Roux et al. found that high school students with autism who were Black/ African American were less likely to have working experiences compared to their white peers with the same disabilities. Fleming and Fairweather found race predicted participation in PSE for students of all disability categories with students from racial/ethnic minority groups less likely to attend a 4-year college. Several studies focusing on employment reported minority youth with a disability had worse employment outcomes compared to white youth with a disability (Chen et al.). Unfortunately, few research studies have been conducted to examine the relationship of race on PSE, employment, and other transition outcomes for students with IDD.

Researchers investigating predictors associated with positive post-school outcomes have found that parent expectations are one of the most robust predictors (Carter et al., 2012; Chiang et al., 2012). Youth with ASD were 277% more likely to participate in PSE if they had a parent who expected them to go to college or other postsecondary training opportunity (Chiang et al.). Moreover, youth with IDD whose parents expected them to be self-supporting were 3.43 times

more likely to have a paid job during their high school years compared to students whose parents did not expect them to be self-supporting (Carter et al., 2011). Finally, Carter et al. (2012) examined the extent to which student, family, and school factors were associated with paid employment status during the initial two years following high school among youth with IDD and found paid work experiences during high school years, higher social skills, and higher parent expectations were positively linked to increased odds of employment after high school.

Research has identified numerous correlates of parent expectations. Using data from the 2000 National Longitudinal Transition Study-2 (NLTS2), Kirby (2016) found family background (e.g., race, household income, mother's education) and the student's functional performances (e.g., self-care, independent living skills) were associated with parent expectations for paid jobs and future independent living. These, in turn, significantly predicted paid work, independent living, and social participation outcomes. Using a different sample of students, Holmes et al. (2018) found age, gender, and household income not to be associated with parent expectations for youth financial independence, school attainment, and independent living outcomes.

To date, only a few studies have compared youth and their parents' expectations. Using NLTS2 data, Kirby and colleagues (2019) found parents of students with disabilities held lower expectations for youth postsecondary goals than youth themselves, and both youth and parent expectations were positively associated with postsecondary outcomes. Trainor and colleagues (2019) examined post-school expectations of English learners (ELs) with disabilities and found no significant differences between youth and parent expectations for PSE for both ELs with disabilities and non-ELs with disabilities. Although both studies compared youth and parent expectations, neither examined the data only for students with IDD.

Taken together, expectations and goal setting for post-school outcomes play important roles in the successful transition of youth to post-school lives (Mazzotti et al., 2021). Identifying

potential factors associated with parent and student expectations toward post-school goals for students with IDD, including those from racial/ethnic groups and ELs, may help better support youth and their families and result in better youth post-school success.

Our study investigated the expectations of youth with IDD and their parents in the areas of PSE, employment, independent living, and financial independence using the most recently collected nationally representative data from NLTS 2012. This study extended previous studies by examining multiple post-school domains reported by parents and youth with IDD: expectations for future participation in PSE or employment, independent living, and financial independence. Three research questions were addressed:

1. To what extent are parent and youth expectations about post-school goals different for youth with IDD and youth with other disabilities?
2. To what extent do differences exist in parent and youth with IDD expectations for post-school goals found between youth with IDD and youth with other disabilities?
3. To what degree do student characteristics (e.g., race, EL status, gender, age), student's education history (e.g., held back a grade), family characteristics (e.g., family income, parent highest education level), and parent involvement predict youth and parent expectations for post-school goals for youth with IDD and youth with other disabilities?

Method

NLTS 2012

The NLTS 2012 sampling process was designed to allow the results to generalize to the full population of youth receiving special education services in the United States. A two-stage national probability sample was established to produce precise, nationally representative estimates of the backgrounds and experiences of youth who receive special education services. The first stage consisted of selecting a stratified national probability sample of districts and

recruiting those districts to participate. Districts included local education agencies, charter schools that operate independently, and state-sponsored special schools that serve deaf and/or blind youth. The second stage consisted of selecting a stratified sample of youth from each of the districts that agreed to participate. The two-stage sampling design resulted in an overall sample of youth with and without disabilities of 21,959 youth, of which 17,476 were youth with an IEP in 432 participating districts (Burghardt et al., 2017). The sample of districts was stratified to represent different geographic regions, district size, and other factors.

Data collection was conducted from February-October 2012 and from January-August 2013. A total of 10,459 parent surveys of youth on IEPs were completed (12,988 parent surveys were completed for youth with and without disabilities), representing a 60% unweighted response rate (Burghardt et al., 2017). Across the two years of data collection, 8,960 youth with IEPs had completed the youth survey, representing a 51% unweighted response rate. Youth were ages 12-22 when the interviews took place. Less than 2% of the youth were 12 years old, and less than 1% of them were 22 years of age. All youth were enrolled in grades 7-12 or in a secondary ungraded class at the time of the sampling.

Sample

In this study, we included a sample of youth referred to as IDD who were 14-22 years old in December 2011 and in three disability categories (ASD, ID, and MD), who were enrolled in school when the data were collected, and who attended themselves or their parents attended the IEP meeting, including a transition planning meeting. For comparison purposes, youth with IEPs enrolled in school, not in these three disability categories and they or their parents attended the IEP meeting were also included in the study.

Table 1 presents the characteristics of the sample. The overall sample included 2,280 enrolled youth with IDD (ASD: n = 710; weight % = 30.9%; ID: n = 890, weighted % = 54.2%;

and MD: n = 670, weighted % = 14.9%) and 4,030 enrolled youth with other disabilities. Significant group differences were found for age ($p < .001$), EL status ($p < .05$), youth's education history (ever held back a grade: $p < .05$, ever expelled from school: $p < .001$, and ever had out-of-school suspension: $p < .001$), youth functional ability and daily living index scores ($p < .001$), and parent involvement at home ($p < .001$). The two groups were similar in racial/ethnic composition. The unweighted sample size reported in this study was rounded to the nearest 10 because of the Institute of Education Science (IES) data reporting requirement for using restricted data sets. In total, data were available for 329,094 weighted enrolled youth with IDD and 1,216,088 weighted youth with other disabilities.

Measures

Youth Future Goal Aspirations and Parent Expectations. Seven measures of post-school goal aspirations for youth and parents were included in this study: (a) PSE (student and parent surveys); (b) independent living (student and parent surveys); (c) financial independence (student and parent surveys); and (d) employment (student survey only). Responses to each of these four measures were coded into dichotomous variables (a) education beyond high school was coded as 1 = yes or 0 = no; (b) where youth would live when 30 years old was coded as 1 = yes, living independently, which was a combination of "*On your own – without friends or family," "With friends," "With a spouse or partner,"* or *"In military housing"*; all other responses were coded as 0, which included "*At home with parents," "With a relative," "In a group home, or With supervision," or "In a large facility with paid staff*"; (c) financial independence by age 30 was coded as 1 = "*definitely will*" or "*probably will*" earn enough to support themselves without financial help from their family or government support program, or 0 = "*probably won't*" or "*definitely won't*"; and (d) paid job by age 30 (student only) was coded as 1 = "*definitely will*" or "*probably will*" and 0 = "*probably won't*" and "*definitely won't*."

Student Demographics and Characteristics. Information on the demographics of youth was obtained from district records. The information included: IEP status, limited English proficient status, grade, age (in December 2011), gender, ethnicity (non-Black, any Black, Hispanic, and multi/other), and free/reduced lunch status. We used *youth functional abilities index* (range 0-3) to measure youth functional abilities and *youth daily living index* to measure the extent to which youth can complete typical teenage tasks independently (Burghardt et al., 2017). Both indexes were derived from responses to the parent survey, with higher values representing greater abilities. Example components of the functional abilities index (parent report) included how well youth communicate by any means, speak clearly, carry on an oral conversation, and understand what others say to them. Examples of the daily living index included items regarding how well youth can do tasks without help such as using an ATM or cash machine, making appointments, and getting to places outside the home like school or park

Student's Educational History. Three items were selected from the parent survey to create measures of the student's educational history. They were: (a) ever held back a grade, (b) expelled from school, and (c) out-of-school suspension. Each was coded as a binary variable.

Family Demographic Measures. Four family demographic measures from the parent survey were included in our analyses – household income, parent education, parent involvement at home, and parent involvement at school. Parents reported their most recent *annual household income*; because of small samples in some of the original categories, responses were recoded into four categories: less than $20,000, $20,001-$40,000, $40,010-$60,000, and over $60,000. Parents' reports of the *highest education level* for themselves and their spouse or partner were recoded into three categories (less than high school, high school or GED, and more than high school) because of small cell sizes.

Parent Involvement. For *parent involvement at home*, parents were asked how often they spoke to the child about his or her school experiences (1 = *not at all* to 4 = *regularly*) and how often they helped their child with his or her homework (1 = *never* to 4 = *3 or more times a week*). A composite score was created by summing up the responses of these two questions to present parent involvement at home, with a score ranging from 2 to 8. For *parent involvement at school*, parents were asked how frequently in the current school year, they or another adult in the household had attended a general school meeting (e.g., back to school night), attended a school or class event (e.g., a play or sports event), volunteered at school (e.g., chaperoned a class field trip), or gone to a parent/teacher conference with youth's teacher. The sum of responses (1 = 1-2 times to 4 = more than 5-6 times) to these four items was created to present the measure of parent involvement at school; scores ranged from 0 to 16 points, with higher values representing greater parental involvement.

Data Analysis

Statistics were weighted using youth enrolled weights to represent population estimates. Unweighted sample sizes and weighted percentages were presented for youth with IDD and youth with other disabilities. Chi-square tests of homogeneity were conducted to examine whether parent and youth expectations for post-school goals were different for youth with IDD and youth with other disabilities. Chi-square tests were also conducted to examine parent-youth differences in post-school expectations.

Multiple logistic regressions were conducted to explore the significant predictors of parent and youth expectations. Regression models estimated the adjusted effects of independent variables (gender, ethnicity, free/reduced lunch status, age, functional abilities index score, daily living index scores, student's school experiences of being held back a grade, being expelled from school, and having an out-of-school suspension, household income, parent highest education,

and parent involvement at home and at school) on four indicators of youth future goal aspirations (PSE, independent living, financial independence, and employment) and three indicators of parent expectations (PSE, independent living, and financial independence) for youth with IDD and youth with other disabilities.

Missing Data. Approximately 50% of weighted and unweighted data from NLTS 2012 youth survey were missing (Burghardt et al., 2017). The National Center for Education Statistics (NCES) conducted nonresponse bias analyses and suggested that nonresponse adjustments to the weights succeeded in limiting the potential for bias (Burghardt et al.). Data were not missing at random, thus imputation was not performed. The missing rates were calculated for unweighted sample size, ranging from 37.9% to 38.5% for youth with IDD and 47.2% to 48.1% for youth with other disabilities across the four measures of *youth expectations.* Across the three measures of *parent expectations,* missing rates ranged from 2.5% to 14.0% for youth with IDD. Only 42.4% of the NLTS 2012 survey items were completed by youth themselves (Bloomenthal et al., 2017). SAS logistic regression procedures eliminate any cases with missing values on any variable included in the analyses. Therefore, the missing rate for each logistic regression model was only calculated for data with valid responses for each dependent variable. The weighted missing rates across logistic regression models ranged from 37.9% to 48.1% for youth with IDD and 36.6% to 45.9% for youth with other disabilities.

Results

Research Question 1: Parent and Youth Expectations

Table 2 presents the results of parent and youth expectations for each youth's post-school goals. Compared to youth with other disabilities, youth with IDD had lower future goal expectations in all four areas: obtaining PSE ($\chi^2 = 75.9$, $p < .001$), independent living ($\chi^2 = 101.7$, $p < .001$), financial independence ($\chi^2 = 39.0$, $p < .001$), and employment ($\chi^2 = 19.0$, $p < .001$).

Similar results were found for parent expectations, with parents of youth with IDD showing lower expectations for obtaining PSE ($\chi^2 = 170.6$, $p < .001$), independent living ($\chi^2 = 298.3$, $p < .001$), and financial independence ($\chi^2 = 246.4$, $p < .001$), compared to parents of youth with other disabilities.

Research Question 2: Differences in Parent and Youth Expectations for Post-school Goals

Compared to youth expectations for their post-school goals, parents had significantly lower expectations for all three post-school goals for youth with IDD (PSE: $\chi^2 = 26.5$, $p < .001$, living independently: $\chi^2 = 37.8$, $p < .001$, and financial independence: $\chi^2 = 66.2$, $p < .001$). Similar results were found for youth with other disabilities (PSE: $\chi^2 = 20.8$, $p < .001$ and financial independence: $\chi^2 = 6.3$, $p < .05$).

Research Question 3: Predictors of Youth and Parent Post-school Expectations

Full model logistic regression analyses for youth with IDD and youth with other disabilities were conducted to explore significant predictors of youth's expectations toward themselves in the areas of PSE, independent living, financial independence, and employment (see Table 3) and parent expectations for youth post-school goals (PSE, independent living, and financial independence; see Table 4).

Youth Expectations

Youth with IDD. Compared to male youth with IDD, female youth with IDD were more likely to expect themselves to obtain PSE ($OR = 1.49$, $p < .05$). Functional abilities index score was a positive predictor for youth expectations toward financial independence ($p < .01$) and employment ($p < .01$). Furthermore, the daily living index score was found to be a significant predictor of all dependent variables except for the employment area.

Youth with Other Disabilities. For youth with other disabilities, functional abilities index score was positively associated with expectations for independent living ($p < .001$); financial

independence ($p < .01$), and employment ($p < .05$). Youth's daily living index score was positively associated with the expectations toward PSE ($p < .01$) and financial independence ($p < .01$). Youth with other disabilities who were Hispanic were more likely than non-Black youth to expect to be living independently ($OR = 2.62$, $p < .05$), to be financially independent ($OR = 16.38$, $p < .05$), and to be employed ($OR > 999.99$, $p < .001$). Youth with other disabilities who were from multi- or other races were more likely than non-Black youth to expect to be employed ($OR > 999.99$, $p < .001$). Youth with other disabilities who were ELs were more likely to be financially independent ($OR = 9.51$, $p < .05$) by age 30 compared to youth with other disabilities who were non-ELs. Youth with other disabilities from families with more than $60,000 annual household income were more than twice as likely to expect themselves to obtain PSE ($OR = 2.82$, $p < .001$) compared to youth with other disabilities from families with less than $20,000 annual household income. Compared to youth whose parents had a high school diploma or GED, youth with other disabilities whose parents had more than a high school diploma were more likely to expect themselves to obtain PSE ($OR = 1.78$, $p < .01$); youth whose parents had less than a high school diploma were less likely to expect they would be financially independent by age 30 ($OR = 0.29$, $p < .01$). Furthermore, the student's expectation for living independently by age 30 was significantly associated with parent involvement at school ($p < .01$).

Parent Expectations

Youth with IDD. Compared to parents of non-Black students with IDD, parents of youth with IDD who were Hispanic were more than twice as likely to expect their child to obtain PSE ($OR = 2.8$, $p < .01$) and parents of youth with IDD who were multi races or other were less likely to expect their child to live independently ($OR = 0.2$, $p < .01$). Compared to parents of youth who were not ELs, parents of youth with IDD who were ELs were more than twice as likely to expect their child to live independently ($OR = 2.1$, $p < .01$). Both functional abilities index and daily

living index scores were positively associated with parents' post-school expectations for youth with IDD. Age was significantly negatively associated with financial independence by age 30 ($p < .001$). Parents of older children had lower expectations for financial independence. Parents of youth with IDD who had an out-of-school suspension were less likely to expect their child to obtain PSE ($OR = 0.63$, $p < .05$), compared to parents of youth with IDD who did not have an out-of-school suspension. Compared to parents of youth with IDD who had less than $20,000 annual household income, parents of youth with IDD with $20,000-$40,000 annual household income were more likely to expect their child would obtain PSE ($OR = 1.66$, $p < .05$). Compared to parents of youth with IDD who had a high school diploma, parents of youth with IDD with more than a high school diploma were more likely to expect their child to obtain PSE ($OR = 2.29$, $p < .001$). Also, parent involvement at home was positively associated with the expectation the child would obtain PSE ($p < .05$).

Youth with Other Disabilities. Compared to parents of non-Black youth, parents of Black youth with other disabilities were more likely to expect their children to be financially independent by age 30 ($OR = 1.70$, $p < .05$). Compared to parents of youth with other disabilities who were non-ELs, parents of youth with other disabilities who were ELs were more than twice as likely to expect their child to be financially independent by age 30, ($OR = 2.18$, $p < .05$). For parents of youth with other disabilities, the student's functional abilities index score and daily living index score were positively associated with all three parent post-school expectations ($p < .001$). Parents were more likely to expect female students with other disabilities to live independently compared to male students with other disabilities ($p < .05$). Further, negative associations were found with age for living independently ($p < .01$) and financial independency ($p < .05$). Parents with an annual household income of more than $60,000 had higher expectations for their child for PSE ($OR = 1.77$, $p < .05$) and living independently ($OR = 2.26$, p

< .01) compared to parents with less than $20,000 annual household income. Parents with more than a high school diploma were more likely to report that their child would obtain PSE (*OR* = 1.58, $p < .01$) than parents with less than a high school diploma.

Discussion

Having high expectations about one's future is important for all youth, including youth with IDD (Southward & Kyzar, 2017). We analyzed NLTS 2012 data to explore student and parent expectations on post-school goals (i.e., PSE, employment, independent living, and financial independence). We found that compared to youth with other disabilities, youth with IDD and their parents had much lower expectations across all four post-school goals. Additionally, youth with IDD had much higher expectations for themselves compared to those reported by their parents. Finally, youth with IDD who had greater daily living skills tended to have higher expectations for PSE, independent living, and financial independence, but not for employment. The same pattern was also found for parent expectations.

The contribution of race/ethnicity or EL status to the expectation of youth and parents was more variable. For example, race/ethnicity did not affect the expectations of youth with IDD but did affect the expectations of youth with other disabilities (e.g., being Hispanic, compared to being non-Black, was positively related to expectations for living independently, being financially independent, and being employed after high school). Doren et al (2012) in their analysis of NLTS-2 data found that parents' expectations differed based on race/ethnicity. Parents of African American adolescents with disabilities held significantly lower expectations than parents of Caucasian adolescents with disabilities for their adolescent graduating from high school. Further, no significant differences in parent expectations were found among the three major ethnic groups studied (Caucasian, African American, and Hispanic) for obtaining paid employment after high school. EL status was related only to the post-school goal of financial independence for youth with

other disabilities. Wu and others (2021) examined NLTS 2012 data to explore ELs with disabilities and non-ELs with disabilities for four post-school goals: PSE, independent living, financial independence, and employment. They found that only the post-school goal of being financially independent was related to EL status. Our finding is consistent with the findings of Wu et al. for ELs with other disabilities. EL status seems to place extra barriers on the expectations of these students for being financially independent. Achieving English proficiency might be a plus for these students to find a job after high and being able to become financially independent.

Our findings extend the current literature on this topic in several ways. First, we found that youth with IDD and their parents had lower expectations for youth post-school goals compared to those with other disabilities, especially in the area of PSE. Specifically, half of youth with IDD did not plan to pursue any PSE options, and over 60% of their parents also did not expect them to participate in any PSE or training. PSE is viewed as one of the pathways to competitive integrated employment, higher-paying jobs, economic independence, and independent living for youth with IDD Parents and youth should be made aware of PSE options available for youth with IDD, regardless of the level of severity of the disability.

Second, across post-school goals (i.e., obtaining PSE, living independently by age 30, and functionally self-supporting by age 30), youth with IDD reported a much more positive outlook on their future compared to their parents. Approximately, 90% of the youth reported that they would have a job by age 30 whereas only 45% of parents expected their child to do so. One possible explanation is that service and support systems for individuals with IDD are complex and fragmented (Lee & Burke, 2020), and many parents are unfamiliar with these services (Schutz et al., 2021). Also, these services often have a long waitlist. For example, home and community-based services provide opportunities for individuals with IDD to receive services that support employment and independent living at home or community. Yet, across the nation,

36 states report 216,328 individuals living with a family are on a waitlist for services (Larson et al., 2017). All these factors may have contributed to a relatively negative outlook reported by parents of youth with IDD regarding future goals. Additionally, this finding may suggest a different set of variables contribute to youth and parent expectations, and future studies are needed to understand what malleable factors account for the gap between expectations reported by youth and their parents.

Third, across youth and parents' expectations for both youth with IDD and other disabilities, one consistent finding is that daily living skills (e.g., fixing breakfast or lunch, doing laundry, or buying things from stores) are positively linked to at least one of the post-school goals. This finding is not surprising given that self-care/independent living skills (e.g., making meals for oneself) have been identified as the promising predictor of PSE and employment for transition-aged youth with disabilities (Mazzotti et al., 2021; Test et al., 2009). This finding suggests the importance of incorporating teaching daily living skills within academics for adolescents with IDD, regardless of the severity of the disability.

Fourth, parent involvement, including at home and school, was not significantly associated with either student or parent expectations. Based on the previous literature examining parent involvement for students with IDD (Doren et al., 2012), we expected that parents who are more involved at home and school would have higher expectations for their child. One possible explanation is that items used in NLTS 2012 to assess parent involvement were about whether parents help with homework at home or attend school conferences. Although these forms of involvement are important, they may not be directly linked to the transition planning process. In the context of transition planning, parent involvement refers to the means by which parents have access to information about PSE and career options for their child's future, parents' participation in school or non-school sponsored transition planning activities as well as involvement in advocating

and supporting organizations (Griffin et al., 2010). These forms of parent involvement may be more relevant to parents' expectations for their child's educational and career goals. Future research should investigate whether this is the case.

Limitations

Several limitations need to be acknowledged. First, the NLTS 2012 codes for race/ethnicity also limited the extent to which we could explore the contribution of this student characteristic to student and parent expectations. In the NLTS 2012 data set, race/ethnicity was coded as non-Black, any Black, Hispanic, multi- and other. These codes are not the same as those used in other data sets (Office of Management and Budget, 1995), which typically include, for example, White, Black, Asian, American Indian or Alaska Native, Native Hawaiian or other Pacific Islanders, and Multiracial. If we had had codes with greater differentiation, we would have been able to more explicitly examine the contribution of these variables to student and parent expectations.

A second limitation is that NLTS 2012 looked at youth and parent expectations at one time point. Thus, it is impossible to know the temporal relation between youth and parent expectations. It would have been ideal to have the data collected across multiple time points to address how consistent the expectations would be different across time points and change patterns of youth and parent expectations. It may be the case that parent expectations decrease as their child gets older. Another limitation of the data set is the lack of information on teacher expectations. Given that youth spend a considerable amount of time spend at school, teacher expectations may also play an important role in influencing youth and parent expectations.

Implications

Although our findings have important implications for the future of schooling for transition age youth with IDD, including youth from diverse backgrounds, an important aspect of

improving the educational system for these students is to set up data collection systems that better enable us to study their educational experiences and outcomes. The lack of data on students identified as having IDD, including those from diverse backgrounds, significantly limits what we can say about their expectations and those of their parents. Data systems should be set up to identify these students, and over sample them to ensure adequate data to understand their educational experiences and outcomes.

Despite the data limitations, our findings do have implications for schools to better serve students from diverse racial/ethnic and language backgrounds who have IDD. For example, special educators who support these students need training (preservice and in-service) on how to integrate academic skills and functional skills in their instruction. This, of course, should occur before students are transition age. Although instruction should be integrated, daily living skills need to be addressed in the IEP, discussed during transition planning meetings if not resolved before the student is transition-aged, explicitly taught throughout the day (integrated with academics), and generalized across settings.

The lower expectations of parents may indicate a need for special educators to provide relevant information and training for parents, so that parents are aware of resources available in the community. Due to extensive waiting lists for services in many states, consideration should also be given to beginning discussions with parents regarding the post-school services needs of their child much earlier than age 16 as now required by IDEA.

Our study also indicates that the predictors of post-school goals for youth with IDD and their parents are different from youth with other disabilities and their parents. For example, youth with IDD and their parents had lower expectations for youth' post-school education compared to those with other disabilities. Thus, schools may consider providing youth with IDD and their parents with different supports or services than other student groups to increase their

expectations on post-school goals. Further, the study found that overall, across disability groups, youth held higher expectations for post-secondary education, independent living, and financial independence than did their parents. The extent to which students and their parents have divergent goal expectations for a student's movement into independence has implications for the transition planning process. Schools need to address differences in goal expectations between students and parents to avoid disagreements and challenges that may occur in setting future transition goals. Doren et al. (2012) noted in their research on parent expectations that school personnel may need to help some parents disentangle their expectations for their child from those based on their own experiences by providing information and consultation on supports, accommodations, and service available to support their child in achieving future goals they envision for themselves. Promoting high expectations for all students, including students with IDD and those from diverse racial/ethnic backgrounds, is clearly a foundational goal for schools.

Further, providing all students with disabilities, including students with IDD and those from diverse racial/ethnic backgrounds, opportunities for PSE and integrated competitive employment needs to be further emphasized. Significant strides have been made through research demonstrating the capacities of youth and young adults to successful achieve these transition outcomes. We call for more schools to establish coordinated efforts and resources to improve the expectations from both parents and youth toward obtaining PSE and training and employment. A young person's future financial independence and opportunity to live independently and fully participate in their communities will not occur if high expectations are not shared by parents, students and by school personnel.

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Table 1

Demographic Information for youth *with IDD and youth with Other Disabilities*

Characteristics	Youth with IDD (n^a = 2,280)		Youth with other disabilities (n^a = 4,030)	
	n^a	$\%^b$	n^a	$\%^b$
Gender				
Male	1,500	66.0	2,580	67.6
Female	770	34.0	1,430	32.4
Race				
Non-Black	1,530	67.7	2,630	67.0
Any Black	500	23.5	880	22.3
Multi / Other	40	1.8	110	2.8
Hispanic	140	7.0	270	7.9
Free/Reduced Lunch				
No	850	44.4	1,370	41.9
Yes	960	55.6	1,920	58.1
English learner status ($F = 5.14^*$)				
No	1,890	94.4	3,320	91.4
Yes	110	5.6	310	8.6
Ever held back a grade ($F = 6.36^*$)				
No	1,500	64.5	2,510	60.5
Yes	750	35.5	1,490	39.5
Ever expelled from school ($F = 16.90^{***}$)				

No	2,150	94.8	3,610	90.7
Yes	120	5.2	400	9.3
Ever had out-of-school suspension (F = 36.44***)				
No	1,810	77.5	2,700	66.5
Yes	460	22.5	1,320	33.5
Household income				
$20,000 or less	180	29.4	1,050	27.6
$20,001 to $40,000	580	25.2	960	26.0
$40,001 to $60,000	510	15.4	590	16.0
Over $60,000	510	30.1	1,150	30.4
Parent highest education level				
Less than high school	280	14.0	540	14.5
High school diploma or GED	840	39.7	1,490	38.2
More than high school	1,100	46.3	1,920	47.3

Variables	***n*[a]**	***M***	***n*[a]**	***M***
Age	2,280	16.2	4,030	15.5
Parent involvement at home	2,270	6.2	4,020	6.4
Parent involvement at home	2,280	4.3	4,020	4.5
Functional index score (F = 449.37***)	2,220	2.4	3,970	2.8
Daily living index score (F = 513.88***)	2,160	1.0	3,810	1.7

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Longitudinal Transition Study 2012 (NLTS 2012).
[a] Unweighted sample sizes weighted to nearest 10.
[b] Weighted %

Table 2

Results of Descriptive Analysis for Youth and Parents' Responses to Future Goal Aspirations

	Youth with IDD		Youth with other disabilities	
Items	Weighted %	n[a]	Weighted %	n[a]
Youth future goal aspirations				
Obtaining post-secondary education	58.3	700	79.1***	2,260
Living independently by age 30	75.3	860	92.7***	2,720
Financially self-supporting by age 30	81.9	600	95.5***	1,620
Have a job by age 30	90.2	640	97.9***	1,280
Parent expectations				
Obtaining post-secondary education	36.9	810	66.4***	2,480
Living independently by age 30	44.2	870	85.4***	3,030
Financially self-supporting by age 30	44.6	910	85.6***	3,060

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Longitudinal Transition Study 2012 (NLTS 2012).
Note. Comparisons under the youth with other disabilities are between youth with IDD and youth with other disabilities.
[a] Unweighted sample sizes weighted to nearest 10.
***$p < .001$.

Table 3

Summary of Logistic Regression Results for Student Expectations for Post-school Goals

Predictors	Postsecondary Education	Living Independently	Financial Independence	Employment
	β (OR) [95%CI]	β (OR) [95%CI]	β (OR) [95%CI]	β (OR) [95%CI]
Youth with IDD				
Functional index score			3.32** (4.18) [1.6, 11.2]	3.46** (4.61) [1.5, 14.4]
Daily living index score	3.82*** (2.22) [1.6, 3.0]	4.09*** (2.36) [1.6, 3.5]	3.11* (1.93) [1.2, 3.2]	
Gender (reference: Male)	1.39* (1.49) [1.0, 2.2]			
R^2	0.09	0.09	0.12	0.09
n[a] (weighted n)	720 (124,927)	720 (124,614)	450 (76,061)	440 (72,897)
Youth with Other Disabilities				
Race (reference: Non-Black)				
Hispanic		2.72* (2.62) [1.1, 6.2]	8.38* (16.38) [1.6, 172.6]	34.50*** (+) [+, +]
Multi / Other				19.35*** (+) [+, +]

English learner status (reference: No)			5.98* (9.51) [1.7, 53.8]	
Functional index score		3.9*** (3.90) [2.0, 7.5]	3.55** (3.62) [1.4, 9.2]	5.47* (6.69) [1.6, 28.5]
Daily living index score	2.48** (1.41) [1.1, 1.8]		5.72** (2.3) [1.3, 3.9]	
Household income (reference: <=20K)				
Over $60,000	5.18*** (2.82) [1.5, 5.2]			
Parent highest education (reference: High school or GED)				
Less than high school			-4.45* (0.29) [0.1, 0.8]	
More than high School	308** (1.78) [1.2,2.6]			
Parent involvement at school		5.63** (1.17) [1.1, 1.3]		
R^2	0.08	0.04	0.05	0.03
n[a] (weighted n)	1,870 (711,467)	1,890 (717,128)	1,080 (400,038)	823 (289,020)

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Longitudinal Transition Study 2012 (NLTS 2012).
[a] Unweighted sample sizes weighted to nearest 10.
+: >999.999
*$p < .05$. **$p < .01$. ***$p < .001$.

Table 4

Summary of Logistic Regression Results for Parent Expectations for Post-school Goals

Predictors	Postsecondary Education	Living Independently	Financial Independence
	β (OR) [95%CI]	β (OR) [95%CI]	β (OR) [95%CI]
Parents of Youth with IDD			
Race (reference: Non-Black)			
Hispanic	1.94** (2.83) [1.5, 5.4]		
Multi / Other		-1.66** (0.20) [0.1, 0.6]	
English learner status (reference: No)		1.20* (2.12) [1.0, 4.4]	
Age			-2.94*** (0.79) [0.7, 0.9]
Functional index score	4.56*** (4.32) [2.7, 7.0]		5.38*** (5.52) [2.9, 10.4]
Daily living index score	3.06*** (1.84) [1.4, 2.5]	9.22*** (6.06) [4.1, 8.9]	7.01*** (3.93) [2.8, 5.5]
Out-of-school suspension (reference: No)	-1.33* (0.63) [0.4, 1.0[c]]		
Household income (reference: <= 20K)			
$20,001 to $40,000	1.53* (1.66) [1.1, 2.6]		
Parent highest education (reference: High school or GED)			
More than high school	2.93*** (2.29) [1.5, 3.4]		
Parent involvement at home	1.51* (1.16) [1.0[d], 1.3]		

R^2	0.18	0.35	0.33
n[a] (weighted n)	1,160 (190,315)	1,140 (187,799)	1,150 (190,263)
Parent of Youth with Other Disabilities			
Gender (reference: Male)		2.18* (1.56) [1.0[d], 2.4]	
Race (reference: Non-Black)			
Any Black			2.30* (1.70) [1.1, 2.7]
English learner status			2.06* (2.18) [1.0[d], 4.7]
Age		-2.94** (0.80) [0.7, 0.9]	-2.12* (0.85) [0.7, 1.0[c]]
Functional index score	3.33*** (2.91) [1.8, 4.6]	5.03*** (5.05) [2.9, 8.8]	7.31*** (10.39) [6.0, 17.9]
Daily living index score	3.73*** (1.68) [1.3, 2.1]	9.38*** (3.67) [2.4, 5.5]	9.84*** (3.95) [2.6, 6.0]
Household income (reference: <= 20K)			
Over $60,000	2.79* (1.77) [1.1, 3.0]	3.99** (2.26) [1.3, 4.1]	
Parent highest education (reference: High school or GED)			
More than high school	2.38** (1.58) [1.1, 2.2]		
R^2	0.12	0.16	0.17
n[a] (weighted n)	2,110 (764,899)	2,100 (762,125)	2,120 (762,296)

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Longitudinal Transition Study 2012 (NLTS 2012).
[a] Unweighted sample sizes weighted to nearest 10.
[c] the actual *OR* value < 1.0.
[d] the actual *OR* value > 1.0.
*$p < .05$. **$p < .01$. ***$p < .001$.